Summary of Herring Tagging Experiments Conducted Along the East and Southeast Coasts of Newfoundland, 1974-81

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by

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ABSTRACT

Wheeler, J. P., and G. H. Winters. 1984. Summary of herring tagging experiments conducted along the east and southeast coasts of Newfoundland, 1974-81. Can. Data Rep. Fish. Aquat. Sci. 439: iv + 22 p.

Between 1974 and 1981, the Department of Fisheries and Oceans conducted 39 tagging experiments, applying 117,149 external tags to herring along the east and southeast coasts of Newfoundland. This report summarizes tagging procedures and presents both annual and seasonal recaptures by area for each experiment.

Key words: herring, tagging and migrations

RÉSUMÉ

Wheeler, J. P., and G. H. Winters. 1984. Summary of herring tagging experiments conducted along the east and southeast coasts of Newfoundland, 1974-81. Can. Data Rep. Fish. Aquat. Sci. 439: iv + 22 p.

Entre 1974 et 1981, le ministère des Pêches et des Océans a effectué 39 opérations d'étiquetage et apposé au total 117 149 étiquettes sur des harengs le long des côtes est et sud-est de Terre-Neuve. Le présent rapport résume les méthodes d'étiquetage et fait état des reprises annuelles et saisonnières par secteur pour chacune des opérations susmentionnées.

Mots clés: hareng, étiquetage et migrations

INTRODUCTION

As the result of the significant increase in the commercial herring fishery along the coast of Newfoundland during the 1970's (Pinhorn 1976), the Department of Fisheries and Oceans conducted a series of tagging experiments to determine the migrations and stock relationships of east and southeast coast Newfoundland herring.

This report summarizes tagging procedures and results of 39 tagging experiments conducted between 1974 and 1981.

MATERIALS AND METHODS

Most herring used in the tagging experiments were obtained from commercial fishermen and were caught by purse seine, bar seine or trap. In most cases herring were transferred, prior to tagging, into a holding pound (10 m x 10 m x 10 m) by depressing the headropes and rolling the fish from the commercial gear into the pound. They were then transfered using a dipnet, 20-30 at a time, into a plastic tub filled with seawater. This water was changed after each group (20-30) were tagged. One person held the fish while a second inserted the tag into the musculature below the dorsal fin. The fish was then immediately released.

External tags were used in all experiments. The following types were used: anchor (Floy FD-68), short anchor (Floy FD-68D), dart (Floy DT-2), streamer (Floy FTSL-73), disc and dangler, and disc and disc (Fig. 1). Over 80% of the tags applied were of the anchor type. Tags were either yellow or international orange in color and each one was individually numbered and bore the return address of the Fisheries Research Branch.

Initially a reward of $3.00 was paid for each tag returned with information on date of capture, location of capture and gear used. In October, 1981 this reward was increased to $5.00 as an incentive to fishermen to return more tags.

Both actual number of tags recaptured and recaptures adjusted by commercial catch have been included in all analyses (Tables 2-17). These adjustments were required since the number of tags recaptured within an area over a given time is dependent not only on the ratio of marked to unmarked in the sampled population, but also upon catch and effort within that area. The adjustments were made by determining the annual (Tables 2-9) or quarterly (Tables 10-17) recaptures by area and then using annual or quarterly commercial landings to determine for each area the number of tags returned per thousand metric tons landed.

RESULTS

Experiments were conducted in 23 different locations along the coast of Newfoundland (Fig. 2). A total of 117,149 tags were applied (Table 1) and to

date 4,437 tagged fish have been recaptured, representing a return rate of 4.0%. Of these, 1,933 (43.6%) were recaptured within one month of tagging and have excluded from further analyses.

Results are presented in two ways: 1) actual and adjusted recaptures by area and year for each experiment (Tables 2-9), and 2) actual and adjusted quarterly recaptures by area for each experiment (Tables 10-17).

A detailed discussion of stock migrations and relationships as determined from these tagging experiments is described by Wheeler and Winters (1984).

REFERENCES

Pinhorn, A. T. 1976. Living marine resources of Newfoundland-Labrador: Status and potential. Fish. Res. Board Can. Bull. 194, 64 p.

Wheeler, J. P., and G. H. Winters. 1984. Migrations and stock relationships of east and southeast Newfoundland herring (Clupea hargenus) as indicated from tagging studies. J. Northw. Atl. Fish. (In press).

Table 1. Summary of east and southeast coast Newfoundland herring tagging experiments, 1974-81, indicating areas and locations of experiments, dates, numbers tagged, total recaptures, and recaptures within one month of tagging.

Area	Locality	Date	No. tagged	Overall total recapt. No.	%	Within one month No.	%
White Bay	Sops Arm	June'76	5650	411	(7.3)	206	(50.1)
	Hare Bay	Oct.'76	5000	230	(4.6)	71	(30.9)
	Sops Arm	June'77	5000	169	(3.4)	57	(33.7)
	Hare Bay	Sept.'77	1600	32	(2.0)	18	(56.3)
	Pacquet	Oct.'77	1700	24	(1.4)	6	(25.0)
Notre Dame Bay	Lawrenceton	June'75	5200	95	(1.8)	29	(30.5)
	Bridgeport	July'75	950	56	(5.9)	47	(83.9)
	Lawrenceton	June'76	4500	104	(2.3)	22	(21.2)
	Pt. Leamington	June'76	411	9	(2.2)	0	(0.0)
	Lawrenceton	June'77	5000	91	(1.8)	43	(47.3)
	Lawrenceton	June'78	225	7	(3.1)	4	(57.1)
	Fogo Island	Sept.'80	5000	36	(0.7)	0	(0.0)
Bonavista Bay	Chandlers Reach	Nov.'75	3750	63	(1.7)	26	(41.3)
	Chandlers Reach	Oct.'76	4125	513	(12.4)	429	(83.6)
	Chandlers Reach	Oct.'77	1225	63	(5.1)	46	(73.0)
	Rocky Bay/ Traverse Brook	May '81	8000	152	(1.9)	0	(0.0)
Trinity Bay	Chance Cove	May '75	3725	124	(3.3)	30	(24.2)
	Chance Cove	Apr.'76	5000	218	(4.4)	2	(0.9)
	Bellevue	May '77	3000	164	(5.5)	45	(27.4)
	Bellevue	May '77	2000	57	(2.9)	30	(52.6)
	Bellevue	May '78	4200	65	(1.5)	44	(67.7)
Conception Bay	Port de Grave	Aug.'75	1950	8	(0.4)	3	(37.5)
	Kellys Island	Aug.'75	1150	42	(3.7)	10	(23.8)
	Kellys Island	Dec.'75	2350	106	(4.5)	17	(16.0)
	Kellys Island	June'76	4000	61	(1.5)	13	(21.3)
Southern Shore	Fermeuse	May '75	2000	87	(4.4)	3	(3.4)
	Aquaforte	May '76	325	10	(3.1)	6	(60.0)
	Fermeuse	May '76	3000	349	(11.6)	296	(84.8)
	Aquaforte	May '76	900	20	(2.2)	1	(5.0)
	Aquaforte	Apr.'77	2400	215	(9.0)	79	(36.7)
	Aquaforte	May '78	2900	307	(10.6)	129	(42.0)
St. Mary's Bay	North Harbour	June '74	6888	270	(3.9)	205	(75.9)
	Holyrood Pond	June '75	300	18	(6.0)	8	(44.4)
	Holyrood Pond	June '75	300	11	(3.7)	0	(0.0)
	Point La Haye	April '76	3825	88	(2.3)	2	(3.7)
	Riverhead	May '77	3000	36	(1.2)	0	(0.0)
Placentia Bay	Tacks Beach	Dec. '75	2100	37	(1.8)	3	(8.1)
	Bar Haven	Jan. '77	1457	23	(1.6)	2	(8.7)
	Sound Island	March '77	3043	66	(2.2)	1	(1.5)
			117149	4437	(3.8)	1933	(43.6)

Table 2. Results of herring tagging experiments conducted in White Bay, 1976-77, indicating by area and year, actual number of recaptures and recaptures adjusted by catch (No./kt) excluding recaptures within one month of tagging.

Locality and date	Year of recapture	White Bay		Notre Dame Bay		Bonavista Bay		West Coast	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Sops Arm	1976	35	12.0	74	11.0	1	0.2	-	-
(June '76)	1977	41	23.1	24	2.4	1	0.1	2	0.2
	1978	9	3.0	9	0.9	3	0.5	-	-
	1979	3	1.6	-	-	-	-	-	-
	1980	-	-	-	-	-	-	-	-
	1981	1	1.1	-	-	-	-	-	-
	1976-81	89	7.1	107	2.2	5	0.1	2	<0.1
Hare Bay	1976	5	416.7	113	19.5	-	-	-	-
(Oct. '76)	1977	5	2.8	20	2.0	-	-	-	-
	1978	9	3.0	2	0.2	-	-	1	0.1
	1979	2	1.1	-	-	1	0.2	-	-
	1980	1	0.5	-	-	-	-	-	-
	1976-80	22	2.5	135	3.0	1	<0.1	1	<0.1
Sops Arm	1977	50	32.8	22	6.0	2	0.3	-	-
(June '77)	1978	13	4.4	13	1.2	3	0.5	-	-
	1979	4	2.1	4	0.3	-	-	-	-
	1980	1	0.5	-	-	-	-	-	-
	1977-80	68	8.0	39	1.2	5	0.2	-	-
Hare Bay	1977	3	11.2	16	4.8	-	-	-	-
(Sept. '77)	1978	3	1.0	6	0.6	-	-	-	-
	1977-78	6	1.9	22	1.6	-	-	-	-
Pacquet	1977	-	-	4	5.8	-	-	-	-
(Oct. '77)	1978	2	0.7	10	1.0	1	0.2	-	-
	1979	1	0.5	-	-	-	-	-	-
	1977-79	3	0.6	14	0.6	1	0.1	-	-
Combined	1976	40	13.8	187	27.7	1	0.2	-	-
	1977	99	55.8	86	8.7	3	0.3	2	0.2
	1978	36	12.2	40	3.8	7	1.2	1	0.1
	1979	10	5.3	4	0.3	1	0.1	-	-
	1980	2	1.0	-	-	-	-	-	-
	1981	1	1.1	-	-	-	-	-	-
	1976-81	188	15.0	317	6.4	12	0.3	3	<0.1

Table 3. Results of herring tagging experiments conducted in Notre Dame Bay, 1975-80, indicating by area and year, actual number of recaptures and recaptures adjusted by catch (No./kt) excluding recaptures within one month of tagging.

Locality and date	Year of recapture	White Bay		Notre Dame Bay		Bonavista Bay		Trinity Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Lawrenceton	1975	1	0.5	22	8.9	-	-	-	-
(June '75)	1976	3	1.0	28	2.9	-	-	-	-
	1977	2	1.1	1	0.1	1	0.1	-	-
	1978	-	-	2	0.2	-	-	-	-
	1975-78	6	0.6	53	1.6	T	<0.1	=	=
Bridgeport	1975	-	-	4	1.8	-	-	-	-
(July '75)	1976	1	0.3	4	0.4	-	-	-	-
	1975-76	T	0.2	8	0.7	=	=	=	=
Lawrenceton	1976	4	1.4	37	5.5	1	0.2	-	-
(June '76)	1977	5	2.8	19	1.9	1	0.1	-	-
	1978	2	0.7	10	1.0	-	-	-	-
	1979	-	-	-	-	-	-	-	-
	1980	-	-	-	-	-	-	-	-
	1981	1	1.1	-	-	-	-	-	-
	1976-81	12	1.0	66	1.3	2	0.1	=	=
Pt. Leamington	1976	1	0.3	6	0.9	-	-	-	-
(June '76)	1977	-	-	1	0.1	-	-	-	-
	1978	-	-	1	0.1	-	-	-	-
	1976-78	T	0.1	8	0.3	=	=	=	=
Lawrenceton	1977	7	4.6	9	2.5	2	0.3	1	0.9
(June '77)	1978	1	0.3	22	2.1	-	-	-	-
	1979	2	1.1	2	0.1	-	-	-	-
	1977-79	10	1.4	33	1.2	2	0.1	T	0.1
Lawrenceton	1978	1	0.5	1	0.2	-	-	-	-
(June '78)	1979	1	0.5	-	-	-	-	-	-
	1978-79	2	0.5	T	0.1	=	=	=	=
Fogo Island	1980	-	-	1	4.2	1	0.6	-	-
(Sept. '80)	1981	-	-	16	3.9	13	2.3	-	-
	1980-81	=	=	17	3.9	13	2.3	=	=
Combined	1975	1	0.3	26	10.5	-	-	-	-
	1976	9	3.0	75	7.9	1	0.2	-	-
	1977	14	7.9	30	3.0	4	0.4	1	0.4
	1978	4	1.4	36	3.4	-	-	-	-
	1979	3	1.6	2	0.1	-	-	-	-
	1980	-	-	1	0.2	1	0.3	-	-
	1981	1	1.1	16	3.9	12	3.0	-	-
	1975-81	32	2.2	186	3.4	18	0.5	T	0.1

Table 4. Results of herring tagging experiments conducted in Bonavista Bay, 1975-81, indicating by area and year, actual numbers of recaptures and recaptures adjusted by catch (No./kt) excluding recaptures within one month of tagging.

Locality and date	Year of recapture	White Bay		Notre Dame Bay		Bonavista Bay		Trinity Bay		Conception Bay		Southern Shore	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Chandlers Reach (Nov. '75)	1975	-	-	-	-	2	2.9	-	-	-	-	-	-
	1976	-	-	1	0.4	13	2.0	2	0.6	-	-	-	-
	1977	-	-	1	0.1	4	0.4	8	3.0	-	-	-	-
	1978	-	-	-	-	2	0.4	2	0.9	-	-	-	-
	1975-78	=	=	2	0.1	22	1.0	12	1.5	=	=	=	=
Chandlers Reach (Oct. '77)	1976	-	-	1	0.2	1	0.3	1	0.4	-	-	-	-
	1977	-	-	-	-	39	4.2	26	9.7	1	0.7	1	1.5
	1978	-	-	-	-	6	1.1	-	-	-	-	-	-
	1979	-	-	-	-	-	-	-	-	-	-	-	-
	1980	-	-	-	-	1	0.3	-	-	-	-	-	-
	1976-80	=	=	T	<0.1	47	1.6	27	2.1	T	0.2	T	0.8
Chandlers Reach (Oct. '77)	1977	-	-	-	-	21	5.4	1	1.2	-	-	-	-
	1978	-	-	1	0.1	9	1.6	4	1.7	-	-	-	-
	1979	-	-	-	-	1	0.2	-	-	-	-	-	-
	1977-79	=	=	T	<0.1	31	2.0	5	0.9	=	=	=	=
Rocky Bay/ Traverse Bk. (May '81)	1981	1	1.1	-	-	122	30.6	-	-	-	-	-	-
	1982	-	-	-	-	3	7.8	-	-	-	-	-	-
	1981-82	T	0.7	=	=	125	28.6	=	=	=	=	=	=
Combined	1975	-	-	-	-	2	2.9	-	-	-	-	-	-
	1976	-	-	2	0.2	14	2.2	3	0.8	-	-	-	-
	1977	-	-	1	0.1	64	6.9	35	13.0	1	0.7	1	1.5
	1978	-	-	1	0.1	17	3.0	6	2.6	-	-	-	-
	1979	-	-	-	-	1	0.2	-	-	-	-	-	-
	1980	-	-	-	-	1	0.3	-	-	-	-	-	-
	1981	1	1.1	-	-	122	30.6	-	-	-	-	-	-
	1982	-	-	-	-	3	7.8	-	-	-	-	-	-
	1975-82	T	0.1	4	0.1	224	6.2	44	2.7	T	0.2	T	0.6

Table 5. Results of herring tagging experiments conducted in Trinity Bay, 1975-78, indicating by area and year, annual number of recaptures and recaptures adjusted by catch (No./kt) excluding recaptures within one month of tagging.

Locality and date	Year of recapture	Notre Dame Bay		Bonavista Bay		Trinity Bay		Conception Bay		St. Mary's Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Chance Cove (May '75)	1975	-	-	-	-	44	11.9	-	-	-	-
	1976	-	-	4	0.6	13	3.6	1	0.4	-	-
	1977	-	-	2	0.2	8	3.0	-	-	1	0.5
	1978	-	-	-	-	1	0.4	-	-	-	-
	1979	-	-	-	-	1	0.3	1	1.4	-	-
	1975-79	=	=	6	0.2	67	4.2	2	0.2	1	0.1
Chance Cove (Apr. '76)	1976	1	0.1	33	5.2	91	26.0	5	2.3	-	-
	1977	-	-	21	2.3	43	16.0	1	0.7	-	-
	1978	-	-	3	0.5	7	3.0	-	-	-	-
	1979	-	-	-	-	1	0.3	-	-	-	-
	1976-79	1	<0.1	57	2.1	142	11.8	6	1.0	=	=
Bellevue (May '77)	1977	1	0.2	16	1.9	60	39.3	-	-	-	-
	1978	-	-	2	0.4	30	12.8	-	-	-	-
	1979	-	-	3	0.5	2	0.6	1	1.4	-	-
	1980	-	-	-	-	-	-	-	-	2	2.0
	1981	-	-	-	-	-	-	-	-	-	-
	1977-81	1	<0.1	21	0.9	92	10.1	1	0.3	2	0.4
Bellevue (May '77)	1977	-	-	3	0.4	14	9.2	-	-	-	-
	1978	-	-	-	-	16	2.6	-	-	-	-
	1979	-	-	1	0.2	2	0.6	-	-	-	-
	1980	-	-	1	0.3	-	-	-	-	-	-
	1977-80	=	=	5	0.2	22	1.9	=	=	=	=
Bellevue (May '78)	1978	-	-	-	-	3	4.8	-	-	-	-
	1979	-	-	1	0.2	15	4.2	-	-	-	-
	1980	-	-	-	-	-	-	-	-	-	-
	1981	-	-	-	-	1	0.8	-	-	-	-
	1978-81	=	=	1	0.1	19	2.7	=	=	=	=
Combined	1975	-	-	-	-	44	11.9	-	-	-	-
	1976	1	0.1	37	5.8	104	29.0	6	2.6	-	-
	1977	1	0.1	42	4.5	125	46.4	1	0.7	1	0.5
	1978	-	-	5	0.9	47	20.1	-	-	-	-
	1979	-	-	5	0.8	21	5.9	2	2.8	-	-
	1980	-	-	1	0.3	-	-	-	-	2	2.0
	1981	-	-	-	-	1	0.8	-	-	-	-
	1975-81	2	<0.1	90	2.4	342	18.2	9	0.9	3	0.3

Table 6. Results of herring tagging experiments conducted in Conception Bay, 1975-76, indicating by area and year, actual number of recaptures and recaptures adjusted by catch (No./kt) excluding recaptures within one month of tagging.

Locality and date	Year of recapture	Bonavista Bay		Trinity Bay		Conception Bay		Southern Shore		St. Mary's Bay		Placentia Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Port de Grave	1975	-	-	-	-	2	0.7	-	-	-	-	-	-
(Aug. '75)	1976	1	0.2	-	-	-	-	1	5.0	-	-	-	-
	1977	-	-	-	-	-	-	-	-	-	-	-	-
	1978	-	-	-	-	-	-	-	-	-	-	-	-
	1975-78	1	<0.1	=	=	2	2.1	1	0.7	=	=	=	=
Kellys Island	1975	-	-	-	-	16	57.8	-	-	-	-	-	-
(Aug. '75)	1976	1	0.2	-	-	10	4.4	1	5.0	5	3.4	-	-
	1977	-	-	-	-	1	0.7	-	-	-	-	-	-
	1978	-	-	-	-	1	0.7	-	-	-	-	-	-
	1975-78	1	<0.1	=	=	28	5.0	1	0.7	5	0.9	=	=
Kellys Island	1975	-	-	-	-	-	-	-	-	-	-	-	-
(Dec. '75)	1976	4	0.6	3	0.8	48	21.0	2	10.0	5	3.4	-	-
	1977	1	0.1	1	0.4	5	3.4	4	6.1	2	1.0	1	0.7
	1978	-	-	-	-	-	-	-	2.4	-	-	-	-
	1975-78	5	0.2	4	0.5	53	10.0	6	4.7	7	1.3	1	0.3
Kelly Island	1976	2	0.3	3	0.9	37	86.9	-	-	-	-	-	-
(June '76)	1977	1	0.1	1	0.4	3	2.0	-	-	-	-	-	-
	1976-77	3	0.2	4	0.7	40	20.9	=	=	=	=	=	=
Combined	1975	-	-	-	-	18	14.9	-	-	-	-	-	-
	1976	8	1.3	6	1.7	95	41.6	4	19.9	10	6.9	-	-
	1977	2	0.2	2	0.7	9	6.0	4	6.1	2	1.0	1	0.7
	1978	-	-	-	-	1	0.7	-	-	-	-	-	-
	1976-78	10	0.5	8	0.7	123	18.9	8	6.1	12	2.2	1	0.2

Table 7. Results of herring tagging experiments conducted along the Southern Shore, 1975-79. Indicating by area and year, actual number of recaptures and recaptures adjusted by catch (No./kt) excluding recaptures within one month of tagging.

Locality and date	Year of recapture	Bonavista Bay		Trinity Bay		Conception Bay		Southern Shore		St. Mary's Bay		Placentia Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Fermeuse (May '75)	1975	1	0.5	1	0.3	24	8.4	16	72.1	2	2.1	-	-
	1976	-	-	-	-	7	3.1	4	19.9	23	15.8	-	-
	1977	-	-	-	-	1	0.7	-	-	-	-	-	-
	1978	-	-	-	-	-	-	-	-	-	-	-	-
	1979	-	-	-	-	1	1.4	-	-	-	-	-	-
	1975-79	1	<0.1	1	0.1	33	5.7	20	11.8	25	3.0	=	=
Aquaforte (May '76)	1976	-	-	-	-	-	-	2	40.0	-	-	-	-
	1977	-	-	-	-	-	-	1	1.5	-	-	-	-
	1976-77	=	=	=	=	=	=	3	4.2	=	=	=	=
Fermeuse (May '76)	1976	-	-	3	0.9	16	16.2	9	180.0	-	-	-	-
	1977	-	-	-	-	5	3.4	10	15.2	4	2.1	1	0.7
	1978	-	-	-	-	-	-	2	4.8	-	-	1	0.7
	1976-78	=	=	3	0.4	21	5.2	21	18.6	4	1.0	2	0.7
Aquaforte (May '76)	1976	1	0.2	1	0.3	11	11.2	-	-	-	-	-	-
	1977	-	-	-	-	1	0.7	6	9.1	3	1.6	1	0.7
	1976-77	1	0.1	1	0.3	12	4.8	6	8.5	3	1.4	1	0.7
Aquaforte (Apr. '77)	1977	3	0.3	-	-	8	6.0	165	726.9	-	-	-	-
	1978	-	-	-	-	4	2.6	14	33.5	7	3.4	2	1.4
	1977-78	3	0.2	=	=	12	4.2	179	277.5	7	2.7	2	1.3
Aquaforte (May '78)	1978	-	-	1	1.6	18	19.3	127	1,365.6	3	42.9	-	-
	1979	-	-	5	1.4	8	11.3	8	42.6	8	3.9	-	-
	1980	-	-	-	-	-	-	2	58.8	-	-	-	-
	1978-80	=	=	6	1.0	26	12.5	137	434.9	11	3.5	=	=
Combined	1975	1	0.5	1	0.3	24	8.4	16	72.1	2	2.1	-	-
	1976	1	0.2	4	1.1	34	14.9	15	74.6	23	15.8	-	-
	1977	3	0.3	-	-	15	10.1	182	275.8	7	3.7	2	1.5
	1978	-	-	1	0.4	22	14.4	143	342.1	10	4.8	3	2.1
	1979	-	-	5	1.4	9	12.8	8	42.6	8	3.9	-	-
	1980	-	-	-	-	-	-	2	58.8	-	-	-	-
	1975-80	5	0.2	11	0.6	104	11.2	366	212.4	50	5.3	5	0.4

Table 8. Results of herring tagging experiments conducted in St. Mary's Bay, 1974-77, indicating by area and year, actual number of recaptures and recaptures adjusted by catch (No./kt) excluding recaptures within one month of tagging.

Locality and date	Year of recapture	Notre Dame Bay		Bonavista Bay		Trinity Bay		Conception Bay		Southern Shore		St. Mary's Bay		Placentia Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
North Harbour (June '74)	1975	-	-	-	-	-	-	-	-	-	-	7	2.2	-	-
	1976	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1977	-	-	-	-	-	-	-	-	1	1.5	5	2.6	1	0.7
	1978	-	-	8	1.4	1	0.4	-	-	-	-	2	1.0	-	-
	1975-78	-	-	8	0.5	1	0.1	-	-	1	0.5	14	1.6	1	0.1
Holyrood Pond (June '75)	1976	-	-	-	-	-	-	-	-	-	-	16	11.0	2	0.8
	1977	-	-	-	-	-	-	-	-	-	-	2	1.0	1	0.7
	1976-77	-	-	-	-	-	-	-	-	-	-	18	5.3	3	0.7
Point La Haye (Apr. '76)	1976	-	-	5	0.8	1	0.3	4	1.8	2	10.0	13	21.8	-	-
	1977	1	0.1	-	-	-	-	2	1.3	10	15.2	36	18.8	2	1.5
	1978	-	-	-	-	-	-	-	-	-	-	10	4.8	-	-
	1976-78	1	<0.1	5	0.2	1	0.1	6	1.2	12	9.4	59	12.9	2	0.7
Riverhead (May '77)	1978	-	-	-	-	-	-	1	0.7	5	12.0	23	11.0	4	2.8
	1979	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1980	-	-	-	-	-	-	-	-	-	-	1	1.0	-	-
	1978-80	-	-	-	-	-	-	1	0.4	5	7.8	24	4.7	4	0.9
Combined	1975	-	-	-	-	-	-	-	-	-	-	7	2.2	-	-
	1976	-	-	5	0.8	1	0.3	4	1.8	2	10.0	29	19.9	2	0.8
	1977	1	0.1	-	-	-	-	2	1.3	11	16.7	43	22.5	4	2.9
	1978	-	-	8	1.4	1	0.4	1	0.7	5	12.0	35	16.8	4	2.8
	1979	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	1980	-	-	-	-	-	-	-	-	-	-	1	1.0	-	-
	1975-80	1	<0.1	13	0.4	2	0.1	7	0.8	18	8.3	115	9.8	10	0.8

Table 9. Results of herring tagging experiments conducted in Placentia Bay, 1975-77, indicating by area and year, actual number of recaptures and recaptures adjusted by catch (No./kt) excluding recaptures within one month of tagging.

Locality and date	Year of recapture	Conception Bay		Southern Shore		St. Mary's Bay		Placentia Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Tacks Beach (Dec. '75)	1976	1	0.4	-	-	3	2.1	23	21.1
	1977	-	-	-	-	-	-	9	6.6
	1978	-	-	-	-	-	-	1	0.7
	1976-78	T	0.2	-	-	3	0.6	33	8.5
Bar Haven (Jan. '77)	1977	-	-	-	-	-	-	21	47.2
Sound Island (March '77)	1977	-	-	-	-	-	-	4	20.5
	1978	-	-	1	2.4	15	7.2	44	30.5
	1977-78	-	-	T	0.9	15	5.9	48	29.5
Combined	1976	1	0.4	-	-	3	2.1	23	21.1
	1977	-	-	-	-	-	-	34	25.1
	1978	-	-	1	2.4	15	7.2	45	31.1
	1976-78	T	0.2	T	0.8	18	5.5	102	26.2

Table 10. Actual recaptures and recaptures adjusted by catch (No./kt) by area and season, for herring tagged in White Bay, 1976-77. Recaptures within one month of tagging are excluded.

Locality and date	Season of recapture	West Coast		White Bay		Notre Dame Bay		Bonavista Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Sops Arm (June '76)	Jan.-March	-	-	-	-	3	10.9	-	-
	Apr.-June	2	0.4	27	21.4	19	1.8	2	0.7
	July-Sept.	-	-	27	8.4	-	-	-	-
	Oct.-Dec.	-	-	35	11.7	85	6.6	3	0.8
	Total	2	0.4	89	11.9	107	4.5	5	0.8
Hare Bay (Oct. '76)	Jan.-March	-	-	-	-	1	3.6	-	-
	Apr.-June	1	0.1	2	1.6	22	2.0	-	-
	July-Sept.	-	-	9	3.2	-	-	-	-
	Oct.-Dec.	-	-	10	3.3	113	17.4	-	-
	Total	1	0.1	21	2.9	136	7.7	=	=
Sops Arm (June '77)	Jan-March	-	-	-	-	-	-	-	-
	Apr.-June	-	-	10	4.5	12	1.5	3	1.4
	July-Sept.	-	-	44	15.9	1	0.7	-	-
	Oct.-Dec.	-	-	14	22.4	26	3.0	2	0.4
	Total	=	=	68	12.1	39	2.2	5	0.7
Hare Bay (Sept. '77)	Jan.-March	-	-	-	-	-	-	-	-
	Apr.-June	-	-	2	1.8	5	1.0	-	-
	July-Sept.	-	-	1	0.7	1	0.7	-	-
	Oct.-Dec.	-	-	3	11.2	16	4.8	-	-
	Total	=	=	6	2.1	22	2.3	=	=
Pacquet (Oct. '77)	Jan.-March	-	-	-	-	-	-	-	-
	Apr.-June	-	-	-	-	9	1.8	1	0.5
	July-Sept.	-	-	2	1.3	1	0.7	-	-
	Oct.-Dec.	-	-	1	2.8	4	1.2	-	-
	Total	=	=	3	1.5	14	1.4	1	0.5
Combined	Jan.-March	-	-	-	-	4	14.5	-	-
	Apr.-June	3	1.1	41	17.3	67	4.8	6	2.2
	July-Sept.	-	-	83	25.2	3	2.2	-	-
	Oct.-Dec.	-	-	63	20.9	244	16.2	5	0.6
	Total	3	1.1	187	21.6	318	10.4	11	1.0

Table 11. Actual recaptures and recaptures adjusted by catch (No./kt) by area and season, for herring tagged in Notre Dame Bay, 1975-80. Recaptures within one month of tagging are excluded.

Locality and date	Season of recapture	White Bay		Notre Dame Bay		Bonavista Bay		Trinity Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Lawrenceton	Jan.-March	-	-	1	333.3	-	-	-	-
(June '75)	Apr.June	-	-	21	1.7	-	-	-	-
	July-Sept.	2	1.4	19	10.7	-	-	-	-
	Oct.-Dec.	4	1.0	12	1.5	1	0.1	-	-
	Total	6	1.1	53	2.4	1	0.1	-	-
Bridgeport	Jan.-March	-	-	-	-	-	-	-	-
(July '75)	Apr.-June	-	-	4	1.7	-	-	-	-
	July-Sept.	1	4.5	4	9.8	-	-	-	-
	Oct.-Dec.	-	-	-	-	-	-	-	-
	Total	1	4.5	8	2.9	-	-	-	-
Lawrenceton	Jan.-March	-	-	3	10.9	-	-	-	-
(June '76)	Apr.-June	1	83.3	20	2.0	-	-	-	-
	July-Sept.	8	3.4	1	0.7	-	-	-	-
	Oct.-Dec.	3	1.1	42	3.3	2	0.2	-	-
	Total	12	2.4	66	2.7	2	0.2	-	-
Pt. Leamington	Jan.-March	-	-	-	-	-	-	-	-
(June '76)	Apr.-June	-	-	1	0.2	-	-	-	-
	July-Sept.	-	-	-	-	-	-	-	-
	Oct.-Dec.	1	0.4	7	0.7	-	-	-	-
	Total	1	0.4	8	0.6	-	-	-	-
Lawrenceton	Jan.-March	-	-	-	-	-	-	-	-
(June '77)	Apr.-June	1	1.3	19	1.5	-	-	-	-
	July-Sept.	7	5.5	1	0.7	-	-	1	166.7
	Oct.-Dec.	2	5.3	13	2.0	2	0.3	-	-
	Total	10	4.1	33	1.6	2	0.3	1	166.7
Lawrenceton	Jan.-March	-	-	-	-	-	-	-	-
(June '78)	Apr.-June	-	-	-	-	-	-	-	-
	July-Sept.	1	1.1	-	-	-	-	-	-
	Oct.-Dec.	1	6.3	1	0.3	-	-	-	-
	Total	2	1.9	1	0.3	-	-	-	-
Fogo Island	Jan.-March	-	-	-	-	-	-	-	-
(Sept. '80	Apr.-June	-	-	15	7.8	10	9.7	-	-
	July-Sept.	-	-	1	21.7	-	-	-	-
	Oct.-Dec.	-	-	1	90.9	3	1.2	-	-
	Total	-	-	17	8.6	13	3.8	-	-
Combined	Jan.-March	-	-	4	14.3	-	-	-	-
	Apr.-June	2	2.6	80	3.6	10	9.7	-	-
	July-Sept.	19	7.9	26	14.3	-	-	1	166.7
	Oct.-Dec.	11	2.6	76	5.2	8	0.6	-	-
	Total	32	4.5	186	4.7	18	1.2	1	166.7

Table 12. Actual recaptures and recaptures adjusted by catch (No./kt) by area and season, for herring tagging in Bonavista Bay, 1975-81. Recaptures within one month of tagging are excluded.

Locality and date	Season of recapture	White Bay		Notre Dame Bay		Bonavista Bay		Trinity Bay		Conception Bay		Southern Shore	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Chandlers Reach (Nov. '75)	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-
	Apr.-June	-	-	1	1.0	5	1.2	11	5.0	-	-	-	-
	July-Sept.	-	-	-	-	-	-	-	-	-	-	-	-
	Oct.-Dec.	-	-	1	0.2	3	0.4	1	0.5	-	-	-	-
	Total	-	-	2	0.3	8	0.6	12	2.8	-	-	-	-
Chandlers Reach (Oct. '76)	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-
	Apr.-June	-	-	-	-	40	9.5	25	16.1	1	1.1	1	9.6
	July-Sept.	-	-	-	-	1	500.0	-	-	-	-	-	-
	Oct.-Dec.	-	-	1	0.2	19	1.4	2	0.8	-	-	-	-
	Total	-	-	1	0.2	60	5.3	27	6.5	1	1.1	1	9.6
Chandlers Reach (Oct. '77)	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-
	Apr.-June	-	-	1	1.0	9	2.7	3	5.2	-	-	-	-
	July-Sept.	-	-	-	-	-	-	1	1.2	-	-	-	-
	Oct.-Dec.	-	-	-	-	22	2.1	1	1.8	-	-	-	-
	Total	-	-	1	1.0	31	2.3	5	2.5	-	-	-	-
Rocky Bay/ Traverse Bk. (May '81)	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-
	Apr.-June	-	-	-	-	3	9.6	-	-	-	-	-	-
	July-Sept.	-	-	-	-	1	111.1	-	-	-	-	-	-
	Oct.-Dec.	1	2.7	-	-	121	41.2	-	-	-	-	-	-
	Total	1	2.7	-	-	125	38.4	-	-	-	-	-	-
Combined	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-
	Apr.-June	-	-	2	1.0	57	11.0	39	17.6	1	1.1	1	9.6
	July-Sept.	-	-	-	-	2	181.8	1	1.2	-	-	-	-
	Oct.-Dec.	1	2.7	2	0.3	165	8.2	4	1.5	-	-	-	-
	Total	1	2.7	4	0.5	224	8.8	44	7.8	1	1.1	1	9.6

Table 13. Actual recaptures and recaptures adjusted by catch (No./kt) by area and season, for herring tagged in Trinity Bay 1975-78. Recaptures within one month of tagging are excluded.

Locality and date	Season of recapture	Notre Dame Bay		Bonavista Bay		Trinity Bay		Conception Bay		St. Mary's Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Chance Cove (May '75)	Jan.-March	-	-	-	-	-	-	-	-	-	-
	Apr.-June	-	-	2	1.3	17	2.7	-	-	1	31.3
	July-Sept.	-	-	-	-	24	14.2	1	500.0	-	-
	Oct.-Dec.	-	-	4	0.6	27	4.6	1	5.1	-	-
	Total	-	-	6	0.8	68	4.9	2	10.0	1	31.3
Chance Cove (Apr. '76)	Jan.-March	-	-	-	-	2	6.6	-	-	-	-
	Apr.-June	-	-	19	5.3	86	13.7	1	7.4	-	-
	July-Sept.	-	-	-	-	6	13.0	2	13.4	-	-
	Oct.-Dec.	1	0.2	38	2.8	48	12.5	3	15.2	-	-
	Total	1	0.2	47	2.7	142	13.0	6	12.4	-	-
Bellevue (May '77)	Jan.-March	-	-	-	-	12	39.5	1	47.6	-	-
	Apr.-June	-	-	6	1.0	40	6.7	-	-	2	6.5
	July-Sept.	-	-	-	-	5	18.8	-	-	-	-
	Oct.-Dec.	1	0.4	15	2.0	35	40.8	-	-	-	-
	Total	1	0.4	21	1.5	92	12.4	1	47.6	2	6.5
Bellevue (May '77)	Jan.-March	-	-	-	-	4	13.2	-	-	-	-
	Apr.-June	-	-	1	0.4	12	2.0	-	-	-	-
	July-Sept.	-	-	-	-	1	3.8	-	-	-	-
	Oct.-Dec.	-	-	4	0.4	5	5.8	-	-	-	-
	Total	-	-	5	0.8	22	5.0	-	-	-	-
Bellevue (May '78)	Jan.-March	-	-	-	-	-	-	-	-	-	-
	Apr.-June	-	-	1	0.4	15	4.6	-	-	-	-
	July-Sept.	-	-	-	-	2	117.6	-	-	-	-
	Oct.-Dec.	-	-	-	-	2	80.0	-	-	-	-
	Total	-	-	1	0.4	19	5.7	-	-	-	-
Combined	Jan.-March	-	-	-	-	18	59.2	1	47.6	-	-
	Apr.-June	-	-	29	4.8	170	25.6	1	7.4	3	9.8
	July-Sept.	-	-	-	-	38	17.5	3	19.9	-	-
	Oct.-Dec.	2	0.2	61	4.0	117	20.1	4	20.2	-	-
	Total	2	0.2	90	4.5	343	23.0	9	17.8	5	9.8

Table 14. Actual recaptures and recaptures adjusted by catch (No./kt) by area and season, for herring tagged in Conception Bay, 1975-76. Recaptures within one month of tagging are excluded.

Locality and date	Season of recapture	Bonavista Bay		Trinity Bay		Conception Bay		Southern Shore		St. Mary's Bay		Placentia Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Port de Grave (Aug. '75)	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-
	Apr.-June	-	-	-	-	-	-	1	5.1	-	-	-	-
	July-Sept.	-	-	-	-	1	2.5	-	-	-	-	-	-
	Oct.-Dec.	1	0.2	-	-	1	1.2	-	-	-	-	-	-
	Total	1	0.2	-	-	2	1.7	1	5.1	-	-	-	-
Kellys Island (Aug. '75)	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-
	Apr.-June	-	-	-	-	11	3.2	1	5.1	5	4.2	-	-
	July-Sept.	-	-	-	-	9	12.9	-	-	-	-	-	-
	Oct.-Dec.	1	0.2	-	-	8	9.9	-	-	-	-	-	-
	Total	1	0.2	-	-	28	5.6	1	5.1	5	4.2	-	-
Kellys Island (Dec. '75)	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-
	Apr.-June	-	-	1	0.9	33	10.6	6	8.1	7	2.9	1	1.3
	July-Sept.	-	-	-	-	15	49.7	-	-	-	-	-	-
	Oct.-Dec.	5	0.5	3	1.2	5	23.4	-	-	-	-	-	-
	Total	5	0.5	4	1.1	53	14.6	6	8.1	7	2.9	1	1.3
Kellys Island (June '76)	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-
	Apr.-June	1	3.3	1	0.9	3	2.1	-	-	-	-	-	-
	July-Sept.	-	-	-	-	31	102.6	-	-	-	-	-	-
	Oct.-Dec.	2	0.3	3	1.2	6	28.0	-	-	-	-	-	-
	Total	3	0.5	4	1.1	40	20.6	-	-	-	-	-	-
Combined	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-
	Apr.-June	1	3.3	2	1.7	47	13.5	8	10.8	12	4.9	1	1.3
	July-Sept.	-	-	-	-	56	80.6	-	-	-	-	-	-
	Oct.-Dec.	9	0.9	6	2.4	20	19.5	-	-	-	-	-	-
	Total	10	1.0	8	2.2	123	23.7	8	10.8	12	4.9	1	1.3

Table 15. Actual recaptures and recaptures adjusted by catch (No./kt) by area and season, for herring tagged along the Southern Shore, 1975-78. Recaptures within one month of tagging are excluded.

Locality and date	Season of recapture	Bonavista Bay		Trinity Bay		Conception Bay		Southern Shore		St. Mary's Bay		Placentia Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Fermeuse (May '75)	Jan.-March	-	-	-	-	-	-	-	-	1	16.7	-	-
	Apr.-June	-	-	-	-	6	1.6	12	38.1	24	11.2	-	-
	July-Sept.	-	-	1	0.9	19	11.6	7	218.8	-	-	-	-
	Oct.-Dec.	1	1.0	-	-	8	7.8	-	-	-	-	-	-
	Total	1	1.0	1	0.9	33	5.2	19	54.8	25	11.4	-	-
Aquaforte (May '76)	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-
	Apr.-June	-	-	-	-	-	-	3	3.6	-	-	-	-
	July-Sept.	-	-	-	-	-	-	-	-	-	-	-	-
	Oct.-Dec.	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	3	3.6	-	-	-	-
Fermeuse (May '76)	Jan.-March	-	-	-	-	-	-	-	-	-	-	2	2.5
	Apr.-June	-	-	-	-	5	3.5	21	16.7	4	2.4	-	-
	July-Sept.	-	-	-	-	16	66.9	-	-	-	-	-	-
	Oct.-Dec.	-	-	3	1.2	-	-	-	-	-	-	2	2.5
	Total	-	-	3	1.2	21	12.6	21	16.7	4	2.4	2	2.5
Aquaforte (May '76)	Jan.-March	-	-	-	-	-	-	-	-	-	-	1	1.3
	Apr.-June	-	-	-	-	1	0.7	6	9.3	3	1.8	-	-
	July-Sept.	-	-	-	-	8	33.5	-	-	-	-	-	-
	Oct.-Dec.	1	0.4	1	0.4	3	14.0	-	-	-	-	-	-
	Total	1	0.4	1	0.4	12	6.4	6	9.3	5	1.8	1	1.3
Aquaforte (April '77)	Jan.-March	-	-	-	-	-	-	-	-	-	-	1	2.6
	Apr.-June	-	-	-	-	12	6.0	179	168.9	8	5.1	1	1.5
	July-Sept.	-	-	-	-	-	-	-	-	-	-	-	-
	Oct.-Dec.	3	0.8	-	-	-	-	-	-	-	-	-	-
	Total	3	0.8	-	-	12	6.0	179	168.9	8	5.1	2	1.9

Continued ...

Table 15. (Cont'd.)

Locality and date	Season of recapture	Bonavista Bay		Trinity Bay		Conception Bay		Southern Shore		St. Mary's Bay		Placentia Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Aquaforte (May '78)	Jan.-March	-	-	-	-	2	95.2	-	-	5	4.3	-	-
	Apr.-June	-	-	5	5.9	6	12.4	138	238.3	5	3.0	-	-
	July-Sept.	-	-	-	-	17	20.1	-	-	-	-	-	-
	Oct.-Dec.	-	-	1	2.9	1	15.9	-	-	-	-	-	-
	Total	-	-	6	5.0	26	18.4	138	238.3	10	5.5	-	-
Combined	Jan.-March	-	-	-	-	2	95.2	-	-	6	4.9	4	3.4
	Apr.-June	-	-	5	5.9	30	7.1	358	233.7	45	7.5	1	1.5
	July-Sept.	-	-	1	0.9	60	24.1	7	218.8	-	-	-	-
	Oct.-Dec.	5	0.7	5	1.7	12	11.0	-	-	-	-	-	-
	Total	5	0.7	11	2.3	104	13.3	366	229.0	50	7.1	5	2.7

Table 16. Actual recaptures and recaptures adjusted by catch (No./kt) by area and season, for herring tagged in St. Mary's Bay, 1974-77. Recaptures within one month of tagging are excluded.

Tagging location and date	Season of recapture	Notre Dame Bay		Bonavista Bay		Trinity Bay		Conception Bay		Southern Shore		St. Mary's Bay		Placentia Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
North Harbour (June '74)	Jan.-March	-	-	-	-	1	3.3	-	-	-	-	2	11.0	1	0.9
	Apr.-June	-	-	-	-	-	-	-	-	1	1.5	12	1.9	-	-
	July-Sept.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Oct.-Dec.	-	-	8	2.7	-	-	-	-	-	-	-	-	-	-
	Total	-	-	8	2.7	1	3.3	-	-	1	1.5	14	2.1	1	0.9
Holyrood Pond (June '75)	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-	1	0.9
	Apr.-June	-	-	-	-	-	-	-	-	-	-	9	3.1	-	-
	July-Sept.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Oct.-Dec.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-	9	3.1	1	0.9
Holyrood Pond (June '75)	Jan.-March	-	-	-	-	-	-	-	-	-	-	-	-	2	0.8
	Apr.-June	-	-	-	-	-	-	-	-	-		9	7.6	-	-
	July-Sept.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Oct.-Dec.	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total	-	-	-	-	-	-	-	-	-	-	9	7.6	2	0.8
Point La Haye (Apr. '76)	Jan.-March	-	-	-	-	-	-	-	-	-	-	2	5.5	2	1.7
	Apr.-June	-	-	-	-	-	-	2	1.4	12	14.2	58	12.9	-	-
	July-Sept.	-	-	-	-	-	-	2	6.6	-	-	-	-	-	-
	Oct.-Dec.	1	0.3	5	0.8	1	0.3	2	9.3	-	-	-	-	-	-
	Total	1	0.3	5	0.8	1	0.3	6	5.1	12	14.2	60	12.7	2	1.7
Riverhead (May '77)	Jan.-March	-	-	-	-	-	-	-	-	-	-	3	6.0	-	-
	Apr.-June	-	-	-	-	-	-	-	-	5	12.1	22	9.9	4	4.7
	July-Sept.	-	-	-	-	-	-	1	1.2	-	-	-	-	-	-
	Oct.-Dec.	-	-	-	-	-	-	-	-	-	-	-	-	-	
	Total	-	-	-	-	-	-	1	1.2	5	12.1	25	9.2	4	4.7
Combined	Jan.-March	-	-	-	-	1	3.3	-	-	-	-	7	3.6	6	1.7
	Apr.-June	-	-	-	-	-	-	2	1.4	18	14.3	110	13.5	4	4.7
	July-Sept.	-	-	-	-	-	-	3	2.6	-	-	-	-	-	-
	Oct.-Dec.	1	0.3	13	0.8	1	0.3	2	9.4	-	-	-	-	-	-
	Total	1	0.3	13	0.8	2	0.6	7	2.5	18	14.3	117	11.7	10	2.3

Table 17. Actual recaptures and recaptures adjusted by catch (No./kt) by area and season, for herring tagged in Placentia Bay, 1975-77. Recaptures within one month of tagging are excluded.

Locality and date	Season of recapture	Conception Bay		Southern Shore		St. Mary's Bay		Placentia Bay	
		Actual	Adjusted	Actual	Adjusted	Actual	Adjusted	Actual	Adjusted
Tacks Beach (Dec. '75)	Jan.-March	-	-	-	-	-	-	33	8.2
	Apr.-June	-	-	-	-	3	2.5	-	-
	July-Sept.	-	-	-	-	-	-	-	-
	Oct.-Dec.	1	4.7	-	-	-	-	-	-
	Total	1	4.7	-	-	3	2.5	33	8.2
Bar Haven (Jan. '77)	Jan.-March	-	-	-	-	-	-	16	13.8
	Apr.-June	-	-	-	-	-	-	5	26.5
	July-Sept.	-	-	-	-	-	-	-	-
	Oct.-Dec.	-	-	-	-	-	-	1	166.7
	Total	-	-	-	-	-	-	22	16.2
Sound Island (March '77)	Jan.-March	-	-	-	-	4	2.4	37	12.2
	Apr.-June	-	-	1	2.4	11	7.0	11	10.5
	July-Sept.	-	-	-	-	-	-	-	-
	Oct.-Dec.	-	-	-	-	-	-	2	333.3
	Total	-	-	1	2.4	15	4.6	50	12.3
Combined	Jan.-March	-	-	-	-	4	2.4	86	16.0
	Apr.-June	-	-	1	2.4	14	5.1	16	15.3
	July-Sept.	-	-	-	-	-	-	-	-
	Oct.-Dec.	1	4.7	-	-	-	-	3	500.0
	Total	1	4.7	1	2.4	18	4.1	105	16.3

Fig. 1 External tags used in Newfoundland herring tagging experiments: A) anchor, B) short anchor, C) dart, D) streamer, E) disc and dangler, and F) disc and disc.

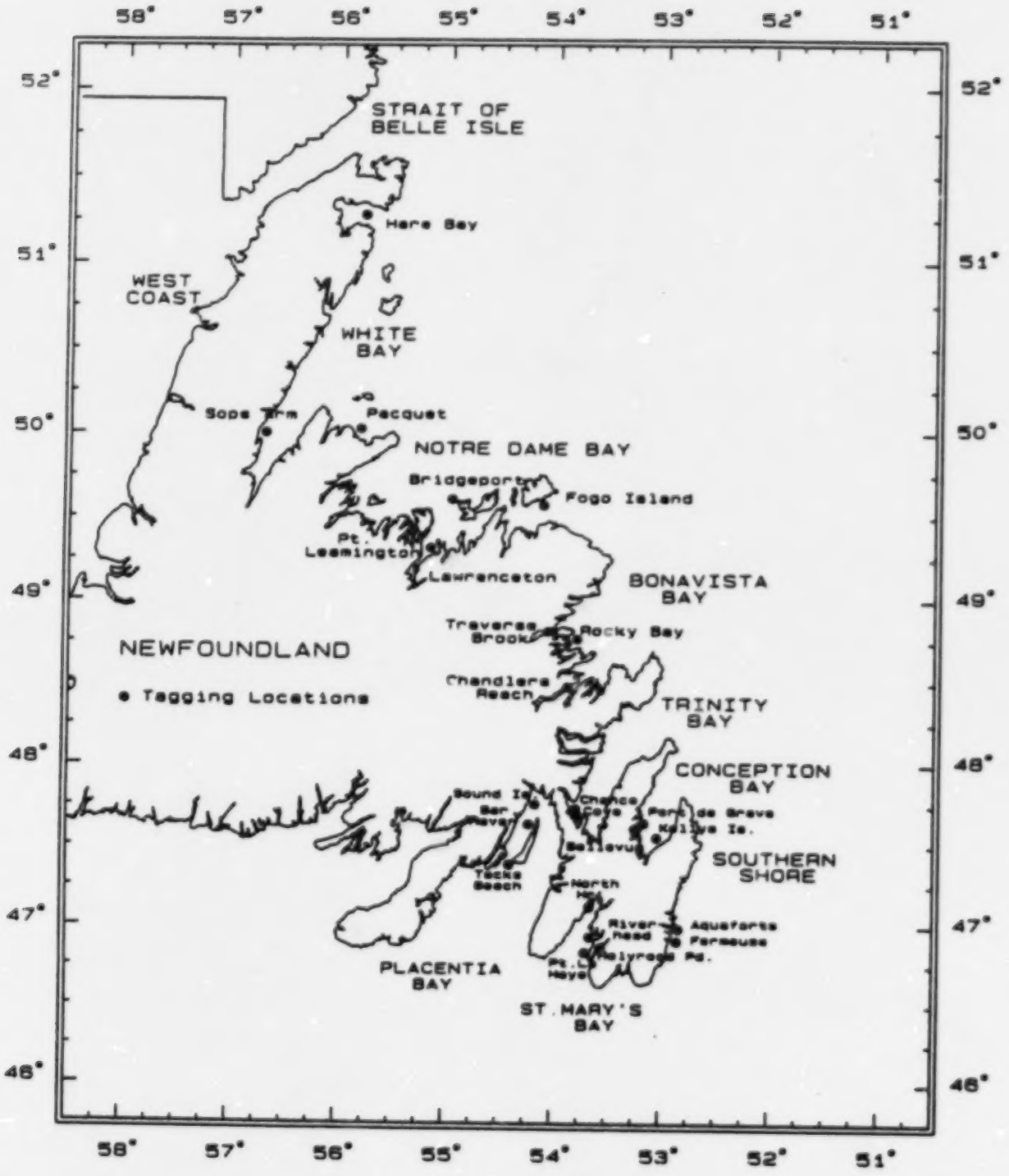

Fig. 2 Area map of Newfoundland showing bays and tagging locations.

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